

Appl. No. 09/685,202  
 Amendment dated September 16, 2004  
 Reply to Office Action of June 16, 2004

### COMMENTS AND RESPONSE

In view of the comments below, Applicants respectfully requests that the Examiner reconsider the present application including rejected claims, as amended, and withdraw the claim rejections.

#### *Election of Species*

The Examiner has indicated that Applicants' arguments filed on March 25, 2004, have been fully considered but are not persuasive. Applicants maintain these arguments are correct and wish to confirm this fact to maintain their ability to appeal the Examiner's restriction.

#### *Claim Rejections 35 USC § 103*

The Examiner has rejected claims 1, 3, 7, 11, 19-20, 22, 27, 29-32, 34, 36-39, 41, and 43-46 under 35 U.S.C. § 103(a) as being allegedly anticipated by United States Patent No. 5,878,034 to Hershey et al. ("Hershey"), in view of United States Patent No. 5,455,593 to Ross ("Ross). Applicants respectfully traverse this rejection.

Claim 1 recites "transmitting a message from the local device to a remote device via an ultrawide band (UWB) wireless medium," and "receiving a response from said remote device via said UWB wireless medium." Claim 27 recites "an ultra wide band (UWB) transceiver configured to: transmit a message from the communications device to a remote device via a UWB wireless medium, and receive a response from said remote device via said UWB wireless medium." Claim 34 recites "means for transmitting a message from the communications device to a remote device via an ultra wide band (UWB) wireless medium," and "means for receiving a response from said remote device via said UWB wireless medium." Claim 41 recites

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"transmitting a message from the local device to a remote device via an ultra wide band (UWB) wireless medium," and "receiving a response from said remote device via said UWB wireless medium." As this shows, each independent claim recites the use of a UWB wireless medium.

The Examiner acknowledges that Hershey does not disclose transmitting and receiving information via a UWB wireless medium. However, he asserts that "it would have been obvious to one of ordinary skill at the art, at the time of the invention, to transmit and receive information of Hershey et al. via UWB wireless medium as taught by Ross for precision and low cost." However, given the requirements of the systems taught in Hershey and Ross, it would not only be non-obvious to combine the two, such a combination would be non-functional.

In the current Office Action the Examiner has rejected this argument stating that the combination of Hershey and Ross would be functional if the distance between the ground station and the spacecraft is within the operating range.

However, Applicants maintain this argument for the reasons set forth in their response of December 11, 2003, and wish to maintain it for any appeal of this rejection. In addition, Applicants offer the following additional remarks to add regarding the lack of motivation to combine the teachings of Hershey and Ross.

The Examiner's proposed modification of Hershey to incorporate the teachings of Ross would render the system of Hershey unsatisfactory for its intended purpose, i.e., satellite communications. In order for the combination of Hershey and Ross suggested by the Examiner to be functional, the spacecraft of Hershey would have to be at such a low altitude as to be unable to operate as a satellite. As a result, there is no valid suggestion or motivation to make the proposed modification. (See, e.g., *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984))

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The Examiner has suggested that the combination of Ross and Hershey would be functional if the distance between the ground station and the spacecraft is within the operating range. However, to place the spacecraft of Hershey within the operating range of Ross would force the spacecraft to operate at such a low altitude that it would be inoperable as a satellite.

Furthermore, the combination of Hershey with the teachings of Ross would change the principle of operation of the system of Hershey. Ross requires the use of very short duration signals, e.g., nanosecond or subnanosecond durations, during which very little energy is radiated. In particular, the power is kept low enough that it would not be likely to interfere with narrowband receivers, and to place its energy within restricted FCC bands. (See, e.g., Ross, column 2, lines 3-10.) Such a power level would be insufficient to make contact with a satellite. Thus, this would change a principle of operation for the system, namely its power level.

The Examiner has suggested that the combination of Ross and Hershey would be functional if the distance between the ground station and the spacecraft is within the operating range. However, to place the spacecraft of Hershey within the operating range of Ross would force the spacecraft to operate at such a low altitude that it would be inoperable as a spacecraft.

Thus, a basic principle of Hershey, i.e., having the spacecraft 10 at a sufficient distance from the ground stations 14, 16, and 18 to maintain orbit, is incompatible with a basic principle of Ross, i.e., having a range short enough that it can use very short duration, very low power signals. As a result, the teachings of the two should not properly be combined since doing so would of necessity change an operating principle of the other. (See, e.g., *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).)

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Applicants further assert that the Examiner has engaged in hindsight analysis using the Applicants own specification as a blueprint for the combination. It is not sufficient to maintain a rejection for the Examiner to simply identify each claimed element in cited references. Rejecting claims based solely on the Examiner finding corollaries for the claimed elements would permit the Examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. And such an approach is not permissible.

In order to prevent the use of hindsight based on the invention, the Examiner must show a motivation to combine the cited elements – some reason that a skilled artisan confronted with the same problems as the inventor and with no knowledge of the claimed invention would select the elements from the cited prior art references for combination in the manner claimed. But it is not sufficient for the Examiner to issue a simple invocation of skill in the art. If such a rote invocation were sufficient to supply a motivation to combine, most areas of technology would rarely experience a patentable technical advance. The requirement of a suggestion to combine stands as a critical safeguard against hindsight analysis and rote application of the legal test for obviousness.

Because the Examiner did not provide anything beyond a general assertion of motivation to combine, based on the Examiner's skill in the art, Applicant asserts that the Examiner engaged in hindsight analysis, improperly using Applicant's own claimed invention to provide the motivation to combine the cited references.

In the alternative, since the Examiner has simply asserted that it would have been obvious to one of ordinary skill in the art to apply the teaching of Ross into the teaching of Hershey for

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precision and low cost, the Examiner could assert that this rejection based on facts within the personal knowledge of the Examiner, i.e., what he believes would have been obvious at the time of the present invention.

If this is the case, Applicants request that the asserted facts be stated more specifically than simply "for precision and low cost," and further specifically request under 37 C.F.R. 1.104(d)(2) that these facts be supported by an affidavit from the Examiner. An affidavit that sets forth the facts in a specific manner will allow Applicants to better respond with either contradiction or explanation by the affidavits of either the Applicants or other persons. (See also, MPEP 2144.03)

Claims 3, 7, 11, 19, 20, and 22 depend from claim 1 and are allowable for at least the reasons given above for claim 1. Claims 29-32 depend from claim 27 and are allowable for at least the reasons given above for claim 27. Claims 36-39 depend from claim 34 and are allowable for at least the reasons given above for claim 34. Claims 43-46 depend from claim 41 and are allowable for at least the reasons given above for claim 41.

Claim 11 recites "selectively enabling communications with said remote device based on said position of said remote device." Claim 31 recites that its processor is further configured to "selectively enable communications with said remote device based on said position of said remote device." Claim 38 recites "means for selectively enabling communications with said remote device based on said position of said remote device." And claim 45 recites "selectively enabling communications with said remote device based on said position of said remote device."

One example of this concept of selectively enabling communication based on position data is when the local device automatically enables data communications with devices that are

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located within a predefined range at any given time while blocking all remote devices outside the predefined range will. (See, e.g., specification, from page 25, line 23, through page 28, line 9, and Fig. 4.)

Nothing in Hershey or Ross, alone or in combination, discloses or suggests these features. Ross discloses nothing regarding the position of devices. And Hershey discloses a system in which multiple ground stations use the same spacecraft channel for communication among themselves. In this system, a TDMA mode is used to prevent simultaneous transmission of two or more signals through the same spacecraft channel. (See, e.g., Hershey, column 1, lines 18-32.) However, nothing in Hershey discloses or suggests that any of the ground stations selectively enable communications with the spacecraft based on the position of the spacecraft. The ground stations use the location information together with knowledge of their own locations to determine appropriate packet transmission times, not to selectively enable communication with the spacecraft. (See, e.g., Hershey, column 3, lines 22-26.)

Claim 19 recites "engaging in secure communications with said remote device based on distance." Claim 32 recites that its processor is "configured to perform said function by causing said communication device to communicate with said remote device by secure communications with said remote device based on said distance determined." Claim 39 recites that "said means for communicating with said remote device comprises means engaging in secure communications with said remote device based on said distance determined." And claim 46 recites that "the communications system is further caused to perform said step of communicating with said remote device by engaging in secure communications with said remote device based on distance."

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One example of this concept of engaging in secure communications based on position data is to only allow secure communications with remote devices that are within a certain minimum range of the local device, allowing unsecured communications with remote devices that are between the minimum range and a maximum range from the local device, and blocking communications with all remote devices outside the maximum range. (See, e.g., specification, from page 29, line 27, through page 33, line 11, and Fig. 6.)

Nothing in Hershey or Ross, alone or in combination, discloses or suggests these features. Ross discloses nothing regarding the distance between devices. And Hershey discloses a system in which multiple ground stations use the same spacecraft channel for communication among themselves. The ground stations use the location information together with knowledge of their own locations to determine appropriate packet transmission times. (See, e.g., Hershey, column 1 lines 18-29, and column 3, lines 22-26.) Nothing in Hershey discloses or suggests having the ground stations engage in secure communications with the spacecraft based on the distance between the ground stations and the spacecraft. Each ground station has the same sort of communication link with the spacecraft regardless of the actual distance between the ground station and the spacecraft.

Claim 20 recites "transmitting a message from a local device to a plurality of remote devices within a communicating area of said local device," "receiving a response from each of said plurality of remote devices," and "determining a round trip time between transmitting said message and receiving of said response for each of said plurality of remote devices." Similarly, claim 22 recites "determining a distance from said local device to another remote device." Figs. 3 and 4 and related disclosure in Applicants' specification show examples of how a single local

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device 301 can make distance measurements with multiple remote devices 302, 303, ... 300N.

(See, e.g., specification, from page 24, line 2, through page 28, line 9, and Figs. 3 and 4.)

Nothing in Hershey or Ross, alone or in combination, discloses or suggests either the use of two or more remote devices, or the process of making distance determinations for two or more remote devices. Ross discloses nothing regarding the distance between devices. And Hershey discloses a system in which multiple ground stations use the same spacecraft channel for communication among themselves. The ground stations use the location information together with knowledge of their own locations to determine appropriate packet transmission times. (See, e.g., Hershey, column 1 lines 18-29, and column 3, lines 22-26.) But Hershey discloses the use of a single spacecraft with a plurality of ground stations. Three or more of the ground stations determine propagation delay between themselves and the spacecraft, and a master ground station determines the location of the spacecraft by the use of these propagation delays. (See, e.g., Hershey, column 2 lines 19-30.) Nothing in Hershey et al. discloses or suggests the use of multiple spacecraft, nor does it disclose or suggest making multiple distance determinations between ground stations and multiple spacecraft.

Therefore, based on at least the reasons given above, Applicants respectfully request that the Examiner withdraw the rejection of claims 1, 3, 7, 11, 19-20, 22, 27, 29-32, 34, 36-39, 41, and 43-46 under 35 U.S.C. § 103(a) as being allegedly anticipated by Hershey, in view of Ross.

#### *Allowable Claims*

The Examiner has indicated that claims 8-10 are allowable. Applicants acknowledge the allowability of these claims.



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*Conclusion*

Accordingly, Applicants respectfully submit that the claims, as amended, clearly and patentably distinguish over the cited references of record and as such are deemed allowable. Such allowance is hereby earnestly and respectfully solicited at an early date. If the Examiner has any suggestions, comments, or questions, calls are welcome at the telephone number below.

Although it is not anticipated that any additional fees are due or payable, the Commissioner is hereby authorized to charge any fees that may be required to Deposit Account No. 50-1147.

Respectfully Submitted,



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